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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,866	09/21/2006	Yuji Ishida	0230-0233PUS1	2073

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
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FOX, DAVID T

ART UNIT	PAPER NUMBER
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1638

NOTIFICATION DATE	DELIVERY MODE
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04/02/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/567,866	<b>Applicant(s)</b> ISHIDA, YUJI	
	<b>Examiner</b> David T. Fox	<b>Art Unit</b> 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/10/06 &amp; 10/24/07</u> .                                  | 6) <input type="checkbox"/> Other: ____.                          |

***Effective Filing Date***

The effective filing date is 13 August 2003, the filing date of the Japanese priority document, which disclosed all elements of the claimed invention.

***Specification Objections***

The specification is objected to for its omission of reference to the PCT application from which it depends. Page 1 of the specification should be amended to indicate that the instant application is a 371 of PCT/JP04/11237 filed 05 August 2004.

Page 23 of the specification is objected to for its recitation of a drawing description which does not correspond with figure numbering. The following amendment would obviate this rejection:

On page 23, line 8, replace "[Fig. 2] Fig. 2 shows" with ---[Figs. 2A-2D] Figs. 2A-2D show---.

All specification amendments should comply with 37 CFR 1.121(b).

***Abstract***

Applicant is requested to provide a clean copy of the Abstract on a separate page. Applicant's submission of the first page of the published PCT application is noted. However, the extraneous portions of the first page of the PCT application cannot be deleted from the Image File Wrapper.

***Claim Objection***

Claim 13 is objected to for its awkward recitation of "method of claim 1 subsequently to the step 2)...". The following modification of claim 13 would obviate this objection. All claim amendments should comply with 37 CFR 1.121(c).

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Claim 13 (proposed text). The method of claim 1, further comprising the following steps, after step 2) of infecting the plant material with an Agrobacterium:

- 3) selecting a transformant, and
- 4) optionally regenerating the selected transformant.

### ***Indefiniteness***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 is indefinite in because the final method step does not correspond to the preamble. The preamble of claim 15 recites a method for obtaining a plant, while step 4) of claim 15, the regeneration of a transformant from an individual cell, is designated an optional step. However, step 4) of claim 15 is required for the obtention of a transformed plant.

### ***Non-Statutory Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

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F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 4-9 and 12-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 12, 14-15, 17-18, 20-21, and 23-24 of copending Application No. 10/089,695. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art to utilize the method for enhancing gene transfer into plant cells including embryos via heating and centrifuging the plant cells prior to cultivation with *Agrobacterium*, wherein the plants may be monocots including maize or rice, as claimed in the copending application; to obtain the method for enhancing gene transfer into plant cells including embryos via increasing pressure prior to *Agrobacterium* cultivation, wherein the increase in pressure may be due to centrifugation, and wherein an optional heating step may also be employed, and wherein the plants may be monocots including maize or rice, as instantly claimed. One of ordinary skill in the art would have recognized that centrifugation exerts centrifugal force or pressure on cells. The claims are coextensive.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Claims 1, 4-9 and 12-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 22-29 of copending Application No. 10/089,696. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art to utilize the method for enhancing gene transfer into plant tissue via centrifuging the plant tissue prior to cultivation with *Agrobacterium*, wherein the plants may be monocots including maize or rice, as claimed in the copending application; to obtain the method for enhancing gene transfer into plant tissue including embryos via increasing pressure prior to *Agrobacterium* cultivation, wherein the increase in pressure may be due to centrifugation, and wherein the plants may be monocots including maize or rice, as instantly claimed. One of ordinary skill in the art would have recognized that centrifugation exerts centrifugal force or pressure on cells. The claims are coextensive.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Anticipation***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-6, 8-9 and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 1,306,440 (JAPAN TOBACCO INC published May 2003, Applicant submitted).

The claims are drawn to a method for enhancing *Agrobacterium*-mediated transformation of plant material including immature embryos, said method comprising increasing the pressure exerted on the plant material prior to *Agrobacterium* infection, wherein the pressurization is performed from 1 second to 30 minutes, wherein the pressurization may occur in a liquid, wherein the plant material may be from monocots including rice or maize, and wherein the transformants are selected and optionally regenerated.

EP 1,306,440 teaches a method for enhancing *Agrobacterium*-mediated transformation of rice and maize immature embryos, said method comprising centrifuging said embryos in a liquid for 10 minutes, followed by selection of the transformants on paromomycin- or hygromycin-containing medium, and regeneration of whole plants. One of ordinary skill in the art would have recognized that centrifugal force inherently exerts pressure on the material to which it is applied. See, e.g., page 3, lines 41-57; page 4, lines 40-49; page 6, line 21 through page 7, line 41; pages 8-10, Tables 1-3 and 5; page 12, line 39 through page 13, line 27.

Claims 1, 4-9 and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 1,306,441 (JAPAN TOBACCO INC published May 2003, Applicant submitted).

Claim 7 is drawn to the above method wherein the plant material is heat treated prior to or during *Agrobacterium* infection.

EP 1,306,441 teaches a method for enhancing *Agrobacterium*-mediated transformation of rice and maize immature embryos, said method comprising heating and centrifuging said embryos in a liquid for 1 or 30 or 60 minutes, followed by selection of the transformants on hygromycin- or phosphonothricin-containing medium, and regeneration of whole plants. One of ordinary skill in the art would have recognized that centrifugal force inherently exerts pressure on the material to which it is applied. See, e.g., page 3, lines 40-47; page 4, lines 4-14; page 6, line 17 through page 7, line 43; pages 8-9, Tables 1-5; page 9, line 49 through page 10.

Claims 1, 4-6, 10 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Cheng et al (Plant Cell Reports 16: 127-132 published 1996).

Claim 10 is drawn to the above method wherein the plant material is from a dicot.

Cheng et al teach a method for enhancing *Agrobacterium*-mediated transformation of the dicot papaya by submerging callus cells in a liquid and vortexing the tubes containing the liquid for one minute, followed by selection of the transformed cells on kanamycin-containing medium, and the regeneration of whole plants (see, e.g., page 128, column 1, bottom paragraph through column 2, first full paragraph; page 132, column 1, penultimate paragraph). One of ordinary skill in the art would have recognized that submersion in a liquid would exert pressure on the submerged material, and that the force of vortexing would also exert pressure thereon.



Claims 1-3, 6, 10 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Knittel et al (Plant Cell Reports 14: 81-86 published 1994).

Claims 2-3 are drawn to the above method wherein pressurization is performed in the range of 2.4 to 8 atmospheres. Claim 6 is also drawn to the above method wherein pressurization is performed in a gas.

Knittel et al teach the transformation of sunflower tissue via the bombardment of the tissue with microparticles propelled through gas at a pressure of 8 bars (7.9 atmospheres), followed by incubation with *Agrobacterium*, followed by selection of transformants on kanamycin-containing medium, followed by the regeneration of whole plants, wherein the bombardment step enhanced transformation efficiency. See, e.g., page 83, column 1; page 84, column 1, paragraph bridging the columns.

Claims 1, 6, 10-11 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 486,233 (PIONEER HI-BRED).

Claim 11 is drawn to the above method wherein the dicot is tobacco.

PIONEER HI-BRED teach the transformation of tobacco tissue via the bombardment of the tissue with microparticles propelled through gas, followed by incubation with *Agrobacterium*, followed by selection of transformants on kanamycin- or phosphinothricin ("Basta")-containing containing medium, wherein the bombardment step enhanced transformation efficiency. See, e.g., page 2, line 54 through page 3, line 11; page 4, lines 6-12 and 56-58; page 5 through page 7, line 39.

### **Conclusion**

No claim is allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David T. Fox whose telephone number is (571) 272-0795. The examiner can normally be reached on Monday through Friday from 10:30AM to 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg, can be reached on 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/David T Fox/

Primary Examiner, Art Unit 1638

March 27, 2009